

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.0047 MGD wastewater treatment plant. This permit action consists of updating the WQS and updating boilerplate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1. Facility Name and Mailing Address: Unionville Elementary School
Wastewater Treatment Plant
200 Dailey Drive
Orange, VA 22960

Facility Location: 10285 Zachary Taylor Highway
Unionville, VA 22567

Facility Contact Name: Mr. Larry A. Massie,
Superintendent
Telephone Number: 540-661-4550
2. Permit No.: VA0060330

Expiration Date of previous permit: June 24, 2009

Other VPDES Permits associated with this facility: None

Other Permits associated with this facility: None

E2/E3/E4 Status: N/A
3. Owner Name: Orange County School Board

Owner Contact/Title: Mr. Larry A. Massie,
Superintendent
Telephone Number: 540-661-4550
4. Application Complete Date: January 30, 2009

Permit Drafted By: Joan C. Crowther
Date Drafted: June 24, 2009

Draft Permit Reviewed By: Alison Thompson
Date Reviewed: June 25, 2009

Public Comment Period : Start Date: End Date:
5. Receiving Waters Information: See Attachment 1 for the Flow Frequency Determination

Receiving Stream Name : Riga Run, UT

Drainage Area at Outfall: 0.234 sq.mi. River Mile: 0.83

Stream Basin: York River Subbasin: N/A

Section: 3 Stream Class: III

Special Standards: None Waterbody ID: VAN-F07, Y017

7Q10 Low Flow: 0.0 MGD 7Q10 High Flow: 0.0 MGD

1Q10 Low Flow: 0.0 MGD 1Q10 High Flow: 0.0 MGD

Harmonic Mean Flow: 0.0 MGD 30Q5 Flow: 0.0 MGD

303(d) Listed: No 30Q10 Flow: 0.0 MGD

TMDL Approved: Yes Date TMDL Approved: *E. coli* - EPA 11/4/05
PCB Fish Tissue due by 2018
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<u>✓</u> State Water Control Law <u>✓</u> Clean Water Act <u>✓</u> VPDES Permit Regulation <u>✓</u> EPA NPDES Regulation	<u>✓</u> EPA Guidelines <u>✓</u> Water Quality Standards <u> </u> Other
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7. Licensed Operator Requirements: Class IV

8. Reliability Class: Class II

9. Permit Characterization:

<input type="checkbox"/> Private	<input type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input checked="" type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

10. Wastewater Sources and Treatment Description:

The wastewater treatment plant consists of a grease trap, 1- 6,000 septic tanks, a bar screen, a 2,000 gallon extended aeration basin, secondary clarifier, tablet chlorination, tablet dechlorination, and diffuse post aeration.

See Attachment 2 for a facility schematic/diagram.

TABLE 1 – Outfall Description				
Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.0047 MGD	38° 15' 43.78" N 77° 57' 5.18" W
See Attachment 3 for USGS Topographic Map: Unionville (DEQ #184C)				

11. Sludge Treatment and Disposal Methods:

The aerobic digested sludge is pumped and hauled by an independent contractor to the Massaponax Wastewater Treatment Plant (VA0025658) in Spotsylvania County, Virginia for disposal.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2	
Identification Number	Description of discharges, DEQ Ambient Water Quality Monitoring in the Vicinity of the Unionville Elementary School's Discharge
VA0062961	Lightfoot Elementary School – Discharges into an unnamed tributary to Riga Run (38° 14' 51" / 77° 57' 12")
8-RIG004.52	Riga Run - DEQ Ambient Water Quality Monitoring at Route 650 Bridge (38° 14' 24" / 77° 56' 23") Samples collected in 1999-2000 and 2006.

13. Material Storage:

TABLE 3 - Material Storage		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Chlorine Tablets	2 – 5 gallon buckets	Stored in covered container in locked storage building
Dechlorination Tablets	2 – 5 gallon buckets	Stored in covered container in locked storage building.

14. Site Inspection: Performed by Terry Nelson, DEQ Water Inspector on April 14, 2009. (See Attachment 4).

15. Receiving Stream Water Quality and Water Quality Standards:a) Ambient Water Quality Data

There is no monitoring data for the receiving stream (Unnamed Tributary to Riga Run). The nearest downstream monitoring station is DEQ ambient water quality monitoring station 8-RIG004.52, located on Riga Run at the Route 650 bridge crossing. This station is located approximately 1.81 rivermiles downstream from the Outfall of VA0060330. The following information regarding Riga Run was taken from the 2008 Integrated Assessment:

Note:

No data exist for the 2008 assessment period. Evaluation of the segment from the previous assessment will be carried forward, including overall category and assessment documentation. According to Rule 8 of the 2008 Assessment Guidance Manual (07-2010), "fully supporting waters can only be carried forward as fully supporting for two additional reporting cycles with no new data." 2008 is the first assessment the segment is carried forward.

The information from the 2006 assessment is as follows:

DEQ ambient monitoring station 8-RIG004.52, at Route 650.

Historical Note:

DEQ station 8-RIG004.52 was added as a special study based on the 1998 303(d) listing of Terrys Run.

The aquatic life and wildlife uses are considered fully supporting. Since there is one fecal coliform bacteria exceedance in eight sampling events, the data are insufficient to determine support for the recreation use. The fish consumption use was not assessed.

Please see Attachment 5 for Planning Statement dated June 4, 2009.

b) Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260 (360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, unnamed tributary to Riga Run, is located within Section 3 of the York River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 6 details other water quality criteria applicable to the receiving stream.

Ammonia:

Staff has re-evaluated the receiving stream ambient monitoring data for pH and temperature (Attachment 8) and the effluent data for pH and finds no significant differences from the data used to establish ammonia criteria and subsequent effluent limits calculated in the 2004 permit reissuance. However, the 2004 ammonia effluent limitations were not incorporated into the 2004 permit reissuance. This was because during the 1999 permit reissuance new information was obtained that was not previously noted that indicated the discharge was intermittent; therefore, only the acute ammonia criteria should be used for to determine the ammonia effluent limitation. At that time, based on the 1999 Water Quality Standards (acute criteria only) the ammonia effluent limitation was determined to be 6.6 mg/L. A re-evaluation in 2004 of the ammonia criteria using the 2003 Water Quality Standards determined that the ammonia effluent limitation should be 10.13 mg/L. During this (2009) permit reissuance, the ammonia effluent limitations re-evaluation concurred with the 2004 re-evaluation by determining that a 10.13 mg/L ammonia effluent limitation would maintain water quality standards in the receiving stream. However, because the facility's effluent quality has been able to comply with the stricter ammonia effluent limitation established in the 1999 permit reissuance, the ammonia effluent limitation will remain at 6.6 mg/L for this permit reissuance. See Attachment 7 for the ammonia calculations.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/l calcium carbonate). The average hardness of the receiving stream is 20 mg/L. This hardness value is based on stream data collected at the 8-RIG004.52 (Route 650) DEQ ambient water quality monitoring station between 1999 and 2000. See Attachment 8 for the hardness data. The temperature (21°C) and pH (7.1 S.U.) effluent data used in determining the water quality criteria were carried forward from the 2004 permit reissuance. There is no hardness data for this facility. Staff guidance suggests using a default hardness value of 50 mg/l CaCO₃ for streams east of the Blue Ridge. The hardness-dependent metals criteria shown in Attachment 6 are based on this value.

Bacteria Criteria:

The Virginia Water Quality Standards (9 VAC 25-260-170 B.) states sewage discharges shall be disinfected to achieve the following criteria:

- 1) *E. coli* bacteria per 100 ml of water shall not exceed the following:

Freshwater <i>E. coli</i> (N/100 ml)	Geometric Mean ¹	Single Sample Maximum
	126	235

¹For two or more samples [taken during any calendar month].

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, unnamed tributary to Riga Run, is located within Section 3 of the York River Basin. There are no special standards for this stream section.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on June 3, 2009 for records to determine if there are threatened or endangered species in the vicinity of the discharge. No threatened or endangered species were identified. See Attachment 9 for the database documentation.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the receiving stream being a dry ditch. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:

Effluent data obtained from the permit application and DMRs has been reviewed and determined to be suitable for evaluation. Effluent data were reviewed; and, there were only three exceedances of the effluent limitations between December 2003 and April 2009. Ammonia monthly average and weekly maximum effluent limitations were violated in February 2004 (18.5 mg/L). The Total Residual Chlorine contact was violated in January 2008 (0.9 mg/L). See Attachment 10.

The following pollutants require a wasteload allocation analysis: Total Residual Chlorine, Ammonia as N.

b) Mixing Zones and Wasteload Allocations (WLAs):

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:	WLA	= Wasteload allocation
	C _o	= In-stream water quality criteria
	Q _e	= Design flow
	Q _s	= Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; 30Q10 for chronic ammonia criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
	f	= Decimal fraction of critical flow
	C _s	= Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o .

c) Effluent Limitations Toxic Pollutants, Outfall 001 –

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N:

Staff evaluated the new ambient water quality data for the receiving stream and has concluded that is not significantly different than what was used to derive the 2004 ammonia limits (Attachment 7). However, due to the facility's demonstration that it can comply with the 1999 ammonia effluent limitations (6.6 mg/L) which are more stringent than those determined in the 2004 and 2009 ammonia effluent limitation evaluations (10.13 mg/L and 10.1 mg/L, respectively), the 1999 ammonia effluent limitations are proposed to continue in this permit reissuance.

2) Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (see Attachment 11).

3) Metals/Organics:

No data was available to review; therefore, no limits are needed.

d) Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), biochemical oxygen demand-5 day (BOD₅), total suspended solids (TSS), and pH limitations are proposed.

Dissolved Oxygen and BOD₅ were based on a stream model. Since the receiving stream is intermittent and the 7Q10 flow is zero, the stream model was run to maintain a D.O. of 5 mg/L. The stream model shows that once the unnamed tributary meets the next unnamed tributary approximately 0.83 river miles downstream, a D. O. of at least 5 mg/L is maintain until the stream flow reaches Riga Run with an effluent limit of 24 mg/L for BOD₅ and a D.O. of 6 mg/L. See Attachment 12 for the Stream model.

It is staff's practice to equate the Total Suspended Solids limits with the BOD₅ limits. TSS limits are established to equal BOD₅ limits since the two pollutants are closely related in terms of treatment of domestic sewage.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards 9 VAC25-260-170.

e) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for Flow, BOD₅, Total Suspended Solids, Ammonia, pH, Dissolved Oxygen, and Total Residual Chlorine.

The limit for Total Suspended Solids is based on Best Professional Judgement.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/l), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.0047 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

Outfall No. 001 has been designated as effluent obtained after the post dechlorination unit.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		<u>Monthly Average</u>		<u>Weekly Average</u>		<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)		NL		N/A		N/A	NL	1/D	Estimated
pH	2	N/A		N/A		6.0 S.U.	9.0 S.U.	1/D	Grab
BOD ₅	4	24 mg/L	0.40 kg/day	36 mg/L	0.60 kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	1	24 mg/L	0.40 kg/day	36 mg/L	0.60 kg/day	N/A	N/A	1/M	Grab
DO	4, 2	N/A		N/A		6.0 mg/L	N/A	1/D	Grab
Ammonia, as N (mg/L)	2	6.6 mg/L		6.6 mg/L		N/A	N/A	1/M	Grab
<i>E. coli</i> (Geometric Mean)	2	126 n/100mls		N/A		N/A	N/A	2/M	Grab
Total Residual Chlorine (after contact tank)	2, 3	N/A		N/A		1.0 mg/L	N/A	1/D	Grab
Total Residual Chlorine (after dechlorination)	2	0.008 mg/L		0.010 mg/L		N/A	N/A	1/D	Grab

The basis for the limitations codes are:

- | | | |
|-------------------------------|------------------------------------|--|
| 1. Best Professional Judgment | MGD = Million gallons per day. | 1/D = Once every day. |
| 2. Water Quality Standards | N/A = Not applicable. | 1/M = Once every month. |
| 3. DEQ Disinfection Guidance | NL = No limit; monitor and report. | 2/M = Two per month at least 7 days apart. |
| 4. Stream model (undated) | S.U. = Standard units. | |
- Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements :a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be <1.0 mg/L with any TRC <0.6 mg/L considered a system failure. Monitoring at numerous STPs has concluded that a TRC residual of 1.0 mg/L is an adequate indicator of compliance with the *E. coli* criteria. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

- a) 95% Capacity Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a POTW.
- b) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. Within 90 days of the effective date of this permit, the permittee shall submit for approval an Operation and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- c) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 C, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.
- d) Reliability Class. The Sewage Collection and Treatment Regulations at 9 VAC 25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a reliability Class of II
- e) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- f) Treatment Works Closure Plan. The State Water Control Law §62.1-44.15:1.1, makes it illegal for an owner to cease operation and fail to implement a closure plan when failure to implement the plan would result in harm to human health or the environment. This condition is used to notify the owner of the need for a closure plan where a facility is being replaced or is expected to close.
- g) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9 VAC 25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.
- h) Sludge Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.C.4. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- i) Sludge Use and Disposal. The VPDES Permit Regulation at 9 VAC 25-31-100.P., 220.B.2., and 420-720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

a) Special Conditions:

1) The “Indirect Dischargers” special condition was deleted from this permit reissuance because this wastewater treatment plant serves only the elementary school so all wastewater sources are already under the control of the Orange County School Board.

b) Monitoring and Effluent Limitations:

1) The additional bacterial effluent limitations and monitoring requirement as specified in Part I. B.2 of the 2004 permit reissuance has been deleted from the 2009 permit reissuance. This special condition was incorporated into the 2004 permit reissuance to ensure that the chlorination and dechlorination units were operating efficiently so that the *E. coli* water quality standard was being maintained. By letter dated September 16, 2005, DEQ acknowledged that the *E. coli* testing had been successfully completed and no further *E. coli* sampling was necessary.

2) Due to the downstream *E. coli* bacteria impairment (Terrys Run), an *E. coli* effluent limitation of 126 n/100 mls at a sampling frequency of twice per month (at least seven days apart) was added to the permit’s effluent page, Part I.A.1. While the unnamed tributary was not specifically included in the Terrys Run Bacteria TMDL, all upstream point source discharges were included. The unnamed tributary will not be included in the Lake Anna PCB TMDL. Bacteria TMDL – WLA for Unionville Elementary School VPDES Permit No. VA0060330 is 8.21E+09 CFU of *E. coli* per year which equates to 126 n/100 mLs. (See Item 26 of the Fact Sheet for more information.)

24. Variances/Alternate Limits or Conditions:

There are no variances, alternate limits, or conditions associated with this permit reissuance.

25. Public Notice Information:

First Public Notice Date:

Second Public Notice Date:

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3925, joan.crowther@deq.virginia.gov. See Attachment 13 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. 303 (d) Listed Stream Segments and Total Maximum Daily Loads (TMDL):

TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

The unnamed tributary flows into Riga Run, which flows into Terrys Run, which in turn flows into Lake Anna. A segment of Terrys Run (VAN-F07R_TRY01A00), beginning at the confluence with Riga Run and continuing

downstream to the confluence with Lake Anna, is listed as not supporting the (1) fish consumption use due to PCBs in fish tissue and (2) recreation use due to *E. coli*.

1. Fish Consumption Use Impairment: The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 6/15/04 and modified 12/13/04 and 08/31/07, limits consumption of bluegill sunfish, carp, channel catfish, largemouth bass, striped bass, white catfish, and white perch to no more than two meals per month. The advisory also bans the consumption of gizzard shad. The affected area includes the entirety of Lake Anna and its tributaries Contrary Creek, Gold Mine Creek, and Terrys Run.

2. Recreation Use Impairment: Sufficient excursions from the instantaneous *E. coli* bacteria criterion (8 of 19 samples - 42.1%) were recorded at DEQ's ambient water quality monitoring station (8-TRY004.98) at the Route 629 crossing to assess this stream segment as not supporting of the recreation use goal for the 2008 water quality assessment. The segment was previously listed for a fecal coliform bacteria impairment, from 1998 through 2004. The *E. coli* bacteria impairment was first listed in 2006.

Several segments of Lake Anna downstream of Terrys Run are listed as not supporting the fish consumption use due to PCBs in fish tissue. The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 6/15/04 and modified 12/13/04 and 08/31/07, limits consumption of bluegill sunfish, carp, channel catfish, largemouth bass, striped bass, white catfish, and white perch to no more than two meals per month. The advisory also bans the consumption of gizzard shad. The affected area includes the entirety of Lake Anna and its tributaries Contrary Creek, Gold Mine Creek, and Terrys Run. The impaired segments listed are:

1. Terrys Run/Lake Anna (VAN-F07L_TRY01A04) – segment includes the Terrys Run arm of Lake Anna. Excursions above the water quality criterion based fish tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue was recorded in tissue from four species (bluegill sunfish, carp, largemouth bass, white catfish) of fish sampled in 2003 and in tissue from five species (bluegill sunfish, carp, channel catfish, gizzard shad, white perch) of fish sampled in 2006 (7 total excursions) at monitoring station 8-TRY001.33.
2. Lake Anna/Pamunkey Creek (VAN-F07L_PMC01A04) - segment includes the Pamunkey Creek arm of Lake Anna beginning at the confluence with the Terrys Run arm of the lake and continuing downstream until the confluence with the North Anna River at The Splits. Excursions above the water quality criterion based fish tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue was recorded in tissue from two species of fish (channel catfish, striped bass) sampled in 2006 (four total excursions) at monitoring station 8-PMC002.13.
3. Lake Anna (VAN-F07L_NAR03A02) - segment includes the upper portion North Anna River portion of Lake Anna, beginning at the boundary of F07, and continues downstream until the Route 208 bridge.
4. Lake Anna (VAN-F07L_NAR02A02) - segment includes the middle portion of Lake Anna, beginning at the Route 208 bridge, and continues downstream until the northern end of the Route 690 bridge. Excursions above the water quality criterion based fish tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue was recorded in tissue from one specie of fish (channel catfish) sampled in 2006 (three total excursions) at monitoring station 8-NAR044.68.
5. Lake Anna (VAN-F07L_NAR01A02) - segment includes the lower portion of Lake Anna, beginning near the northern end of the Route 690 bridge, and continues downstream until the dam. Excursions above the water quality criterion based fish tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue was recorded in tissue from three species of fish (carp, channel catfish, largemouth bass) sampled in 2003 (four total excursions) and in tissue from one specie of fish (carp) sampled in 2006 at monitoring station 8-NAR034.92.

TMDL Status:

Terrys Run (VAN-F07R_TRY01A00) Recreation Use Impairment: A bacteria TMDL for the Terrys Run watershed was developed and approved by the U.S. EPA on November 4, 2005. The SWCB approved the TMDL on September 27, 2006. The sources of bacteria requiring reductions are pet, livestock and wildlife waste delivered directly to the stream or via pastureland or forest, human contributions from straight pipes, failing septic systems, and leaking sanitary sewers, and biosolid application.

The PCB TMDL for Terrys Run and all the segments in Lake Anna has not yet been completed. The PCB TMDL for Terrys Run/Lake Anna segments (except for segment VAN-F07L_NAR01A02) are scheduled for due by 2018. Segment VAN-F07L_NAR01A02 is scheduled to be completed by 2014. Given the TMDL process, all of the Terrys Run/Lake Anna PCB impaired segments are expected to be completed by 2014.

Special Permit considerations: None

27. Additional Comments:

Previous Board Action(s): None.

Staff Comments: The permit reissuance was delayed due to staff workload.

Public Comment:

EPA Checklist: The checklist can be found in Attachment 14.